# Gathering of Requirements

The gathering of requirements is done by e-mail (dated 06/04/2024 17:44, see “*360T - Your Job Application \_ Invite to the e-Assessment.eml*”).



The email contains the instructions for implementing the attached task and give an impression about the coding style and the level of expertise. The attached files are:

1. “*Data Engineer Assignment.pdf*” with the explanation of the assignment that should be done and the requirements of another optional assignment.



1. “*rates\_sample.csv*” an example of CSV containing a sample of events that needs to be analysed



# Analysis of Requirements

In the analysis of requirements phase, we determine the needs and expectation of a new Datawarehouse (DWH) product called “*ForeignExchangeRateDWH*”. The purpose of the analysis is to define expectations, resolve conflicts, document all the key requirements; it involves frequent communication with the stakeholders.

Stakeholder Identification

The project is composed by the following stakeholders:

* **360T**: 360T is a company founded in 2000 and it provides a range of FX trading solutions. Today 360T is uniquely positioned to help connect the global FX industry via proprietary suite of web-based technology solutions.

As the Deutsche Börse Group’s global FX unit, 360T offer a full range of streamlined services across the entire trading workflow of FX and Short-Term Money Market products, enabling firms to transact in a more transparent and efficient manner, whilst also reducing operational and regulatory risk. It is the company that provides the requirements.

* **Andrei Szabo**: He’s a Development Team Lead at 360T. The stakeholder is the main interface between the provider of the service and 360T.
* **Rocco Caliandro**: Rocco is a Data Engineer that works for build the ForeignExchangeRateDWH datawarehouse

Requirements

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| --- | --- | --- | --- |
| REQUIREMENT ID | REQUREMENT NAME | REQUIRED | DESCRIPTION |
| REQ\_001 | DisplayRate | True | Display for each currency pair the FX exchange rate |
| REQ\_002 | DisplayChangePercentage | True | Display for each currency pair the percentage of the change compared to yesterday’s rate at 5PM New York Time |
| REQ\_003 | HighFrequency | True | Rates are received in high frequency, milliseconds |
| REQ\_004 | OutputFormat | True | The output must have the following format: |
| REQ\_005 | JobSchedule | True | Schedule a job which runs every 1 hour and have the possibility to change the schedule to run every 1 minute instead |
| REQ\_006 | ActiveRates | True | The job should consider only “*active*” rates. What “*active”* means will be specified in the business logic during the design phase (for currency pairs that don’t have an “*active”* rate, no output should be produced) |
| REQ\_007 | GenericSolution | True | In the example file there are 5 currency pairs but the job should work also if we assume 300 currency couples (or even more) |
| REQ\_008 | RealTimeStreaming | False | It’s an optional requirement. Instead of a batch, we would like to change the process into a streaming one and display data in real time |